ASSESSMENT OF RETAIL AND WHOLESALE MARKET COMPETITION IN THE ILLINOIS ELECTRIC INDUSTRY

ILLINOIS COMMERCE COMMISSION

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Executive Summary

Section 16-120(b) of the Public Utilities Act ("the Act") directs the Illinois Commerce Commission ("Commission") to submit an annual report to the General Assembly that provides information concerning the development of competitive electricity markets in Illinois. Sec. 16-120(b) requires the Commission to furnish certain statistical information concerning power and energy sales to customers eligible to select new suppliers by electric utilities and also by Alternative Retail Electric Suppliers. The Commission may also provide any other information the Commission believes is relevant in assessing the development of Illinois electricity markets. While the Commission has provided other reports concerning the development of competition in Illinois, this is the first report submitted to the General Assembly pursuant to Sec. 16-120(b) of the Act.

The Sec. 16-120(b) reports will continue to 2006. The series of reports will thus consider developments occurring during the "transition period," in which the state's electric utilities are expected to take steps, such as increasing efficiency through cost-cutting measures, in preparation for the period, beginning as early as 2007, in which utilities will not be permitted to charge transition fees to customers who choose alternative suppliers.[1]

In this report, the Commission examines developments relevant to the competitiveness of the retail and wholesale markets. In the retail market, two key indicators of activity are examined: The first indicator is the rate of customer switching from bundled services to "delivery services." Customers taking delivery services are either purchasing power and energy from alternative retail electric suppliers ("ARES") or are purchasing power and energy from the host utility on an "unbundled" basis under the utility's delivery services tariffs. Unbundled power sales mainly consist of sales to customers under the Sec. 16-110 "Power Purchase Option" ("PPO").

Peak Demand and Sales

Sec. 16-120(b) requires the Commission to report to the General Assembly the peak demands of the retail customers of the State's nine-investor-owned utilities. Sec. 16-120(b) also requires the Commission to report the sales by electric utilities and ARES that took place in 2000.

The sum of the peak demands of the nine investor-owned utilities totaled approximately 28,000 megawatts in 2000. This total represented a reduction in peak demand of approximately 5%, compared to 1999. During the period between 1991-

[1] The activities of utilities occurring during the transition period are described in the Commission's reports submitted to the General Assembly pursuant to Sec. 16-130 of the Act, and will not be discussed herein.

2000, the annual growth rate in peak demand has been about 1.4%, an increase of about 350 megawatts per year.

The ARES have cut into the market share of the incumbent utilities by a small amount since the opening of the electric market in October 1999, as ARES were responsible for approximately 7.3% of the electric sales in the State during 2000. However, sales by utilities to customers eligible (and, in some cases, not yet eligible) for delivery services were about twice as the sales by ARES. Excluding sales to customers not eligible for delivery services, and sales by utilities operating as suppliers outside their service areas, sales by utilities to customers eligible for delivery services were approximately double the sales by ARES.

Switching Statistics

Switching rates continue to be high in the ComEd area only. By the end of 2000, approximately 22% of eligible customers in the ComEd area had switched to delivery services. In terms of usage, the switching statistics are impressive, as nearly 62% of eligible usage had switched from bundled to delivery services. Larger-use customers are switching with a greater frequency than smaller-use customers, a trend that is evident elsewhere in the state.

In the other service areas, approximately 10-15% of customers in the AmerenCIPS, Illinois Power and MidAmerican Energy Company service areas had switched to delivery services. About 1.4% of customers in the AmerenUE service territory switched. No customers located in the service territories of any of the State's four other investor-owned electric utilities have yet switched to delivery services.

Continuing a trend that was apparent at the beginning of 2000, a substantial percentage of customers that have switched to delivery services are purchasing electricity generated by the host utilities, rather than by ARES. Approximately 40% of delivery services customers were using the PPO at the end of 2000. The relatively high rate of use of utility-generated power may provide an indication that the wholesale market is not presently capable of producing a sufficient supply of low-cost power to support a retail market.

The second indicator of retail activity presented in this report are the numbers of suppliers active in the various markets. Most suppliers to continue to concentrate their marketing efforts mainly in the ComEd area. At the end of 2000, about eight suppliers were active in the ComEd area; about four suppliers had acquired a fairly significant number of customers. In the downstate areas, in contrast, few suppliers are operating. The active suppliers in the downstate areas are primarily the downstate utilities themselves; in the MidAmerican service area, the only active marketer has been MidAmerican itself.

Wholesale Market Activities

The Commission is currently investigating the status and structure of competition in the wholesale market, and the factors that will influence its development and the retail prices that will result from it. While the effort is in its early stages, the preliminary evidence indicates reasons to believe that retail prices may increase dramatically by the time the general rate freeze expires in 2005.

One concern of the Commission, under current circumstances, is the anticipated degree of competition in the wholesale market. While the utility's share of retail customers has shrunk slightly in some territories, the overwhelming majority of power being supplied to these retail customers is still coming from the incumbent utilities in the form of the PPO or wholesale power contracted from the utility to suppliers. Independent power producers have made limited inroads into the market share of the utilities and their holding companies. There is also concern regarding the ability of the Illinois transmission system to support a competitive wholesale market between and within the utility territories. Given the incentives in the present market structure of affiliates and holding companies, there is little evidence that this situation will change in the near future. If the current situation, as perceived at this time, remains unchanged, there is every reason to believe that retail prices, passed through from the concentrated wholesale markets, will be higher than they would be with market structure that would be supporting actual wholesale competition.

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I. Introduction

Section 16-120(b) of the Public Utilities Act requires the Illinois Commerce Commission to submit an annual report to the General Assembly describing the development of competition in Illinois. This is the first such report submitted under Sec. 16-120(b), although the Commission has submitted previous reports to the General Assembly concerning the changes to the Illinois electric industry that have taken place since the December 1997 enactment of the Electric Customer Choice and Rate Relief Law of 1997.

Sec. 16-120(b) requires the Commission to furnish certain statistical information relating to sales by electric utilities, both inside and outside their service areas, as well as sales by Alternative Retail Electric Suppliers ("ARES"). In addition, the Commission may provide "any other information the Commission considers significant in assessing the development of Illinois electricity markets.…" In this report, the Commission examines the development of retail (Section II of the report) and wholesale electric markets (Section III).

The Commission finds positive signs of retail market growth in some areas of the state, and among some customer groups. In the Commonwealth Edison area, a large number of customers have switched from bundled service to delivery services. In other service territories, a fairly significant number of large customers have switched. On the other hand, customer switching is still negligible or even non-existent in the smaller service areas. Additionally, approximately 40% of customers that have switched to delivery services have switched to the Power Purchase Option ("PPO") service, a service that is available only to the customers of the three utilities that currently assess transition fees to customers who switch to delivery services. Since the PPO will be dropped as a service offering when utilities cease charging transition fees, customers (and suppliers) cannot rely on the PPO indefinitely. Overall, the Illinois retail market is still in the early growth stage of development.

Growth in the retail market is dependent on the competitiveness of the wholesale market. There are indications, however, that the wholesale market is not yet capable of supporting a competitive retail market. One sign of a lack of a vibrant wholesale market is that a sizeable fraction, perhaps even a majority, of the power supplied to delivery services customers is being sold to suppliers by the incumbent utilities rather than by independent producers. There are few signs, at present, that this situation will change in the near future.

If the wholesale market remains relatively uncompetitive, prospects for a truly competitive retail market will not be bright. Additionally, an uncompetitive wholesale market could eventually create upward pressure on the prices paid by customers who

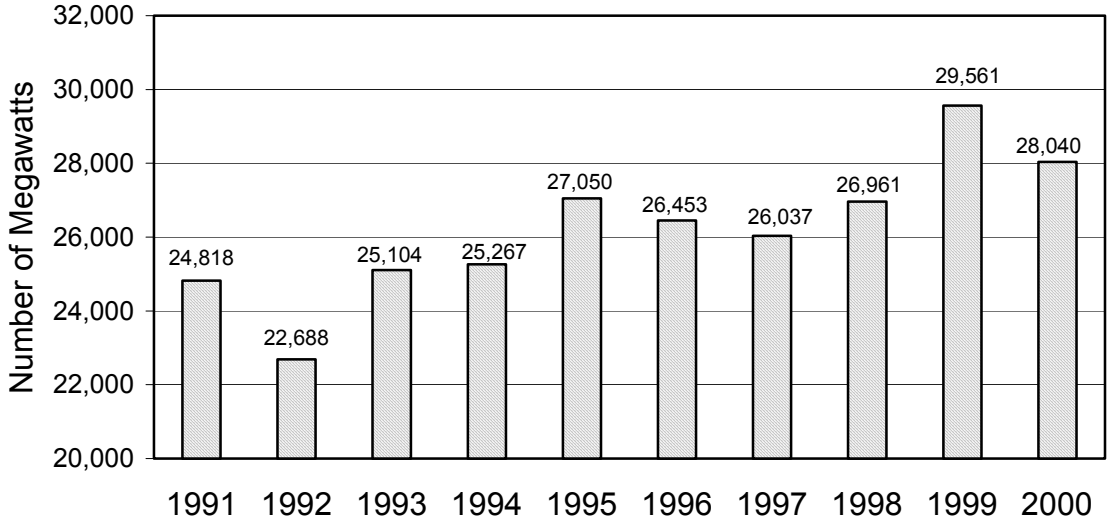
choose to remain bundled customers after 2005, when the present general rate freeze is terminated.

II. Peak Electric Demand and Sales and Deliveries in 2000 (Sec. 16-120(b)(1),(2) and (3))

A. Peak Demand

Figure 1 shows the level of non-coincident peak demand of the State's nine investor-owned utilities in 2000.[2] For reference, the peak demand in each year since 1991 is also provided. Non-coincident peak demand in Illinois has grown at annual rate of 1.4% since 1991.

Figure 1: Non-Coincident Peak Demand in Illinois, 1991-2000 (MW)



B. Electric Sales By Electric Utilities and ARES

Sec. 16-120(b)(2) requires the Commission to collect data concerning the following:

> the total annual kilowatt-hours delivered and sold to retail customers in the State of Illinois by each electric utility within its service territory, each electric utility outside its service territory, and alternative retail electric suppliers in the preceding calendar year.

[2] Data for 2000 and prior years was provided by each of the electric utilities in response to a Staff request.

Sec. 16-120(b)(3) requires the Commission to express the information collected in response to Sec. 16-120(b)(2) in percentage terms. Together, these two subsections provide an indication alternative suppliers' success in cutting into the utilities' market share. Excluding customer self-generation, the utilities' market share until October 1999 stood at 100%.

The Commission gathered information from the utilities and ARES concerning their electricity sales to retail customers. This information is summarized in Figure 2. Total sales by electric utilities include the following: (a) bundled electricity sales; (b) "contract sales," which include sales under Sec. 16-106 and Sec. 16-116 of the Act, sales under "special rate contracts" that were entered into prior to the enactment of the law restructuring the electric industry, and sales to delivery services customers under the host utilities' delivery services tariffs; (c) "unassigned" sales to PPO customers; and (d) sales by electric utilities outside their service areas. Electric sales by ARES include retail sales to delivery services customers under the host utilities' delivery services tariffs and "assigned" PPO sales. The sales by electric utilities plus sales by ARES equal "deliveries."

Figure 2 shows that, by the end of 2000, the ARES had made some inroads into the utilities' market position. All sales to retail customers, including delivery services customers, totaled approximately 140 million mWh during 2000; the ARES' shares of these sales were about 10.3 million mWh, or 7.3% of all sales. Sales by utilities inside their service areas were about 126 million mWh, while sales by utilities operating outside their service areas (AmerenCIPS, CILCO, Illinois Power and MidAmerican) were approximately 3.7 million mWh.

Figure 2 also shows that electric utilities were more successful than ARES in selling power and energy to customers eligible (or potentially eligible) for delivery services. Total ARES sales, consisting of direct sales to retail customers and sales under PPO - Assignment, were approximately 10 million mWh, compared to about 15 million mWh that utilities sold under various types of contracts (competitive contracts and special contracts). [3] It should be noted, however, that, in the future, ARES may acquire a greater share of sales as the utilities' contracts with delivery services customers expire.

[3] The category labeled "Bundled Sales" includes a small amount of sales to customers under "special contracts."

Figure 2: Sales by Electric Utilities and ARES During 2000 (Million mWh)[4]

Seller(s)	*Electric Utilities*				*ARES*	
Sales Category	*Bundled Sales*	*Contract Sales*	*PPO Sales*	*Outside Service Territories*	*Retail Sales*	*Under PPO Assignment*
Amount of Sales	*105.2*	*14.9*	*5.7*	*3.7*	*9.7*	*0.6*
Percent of All Sales	*75.3%*	*10.7%*	*4.1%*	*2.6%*	*6.9%*	*0.4%*

III. Competition in Illinois Retail and Wholesale Markets

A. Retail Market Indicators

In this section, the Commission examines switching rates and supplier activity, two indicators of the development of a retail electric market in Illinois. Various statistics concerning switching rates of customers are presented below in Figures 3-6.

B. Encouraging Signs of Retail Market Growth

By the end of 2000, there were encouraging indications of competitive retail market growth in the ComEd service area, the state's most populous region. As measured by customer movement from bundled service to delivery services, customer switching rates in the ComEd service area are high, in comparison to other states that have opened to competition. As shown in Figure 3, over three-quarters of customers with demand of greater than one megawatt have switched to delivery services, and about 20% of customers with demand of less than one megawatt have made the decision to switch from bundled service to delivery services. Additionally, although switching rates appeared to be declining during toward the end of 2000, the switching trend nevertheless continued upward throughout 2000 in the ComEd service area.

In the non-ComEd areas of the state, switching has been less dynamic, although switching activity is gradually increasing in the Illinois Power and AmerenCIPS service areas. At the beginning of 2000, only a handful of customers had switched from bundled service to delivery services in these two service areas, the state's second and third largest, respectively. By the close of 2000, however, switching rates in both service areas had climbed considerably, and were in the range of 10-20%. The switching statistics for large Illinois Power customers are of particular note. The switching rate for

[4] Data provided by electric utilities and ARES.

IP's customers with demand exceeding one megawatt had approached the 20% mark by the end of 2000. In terms of usage switched to delivery services, approximately 42% of eligible mWh in the Illinois Power area had switched to delivery services by the end of 2000.

Figure 3: Number of Customers Switching to Delivery Services During 2000

	Number of Customers Eligible for Delivery Services		*Number of Customers Switched to Delivery Services*		*Percentage of Customers Switched to Delivery Services (%)*	
Utility / Demand Level	*Less than 1 MW*	*Greater than 1 MW*	*Less than 1 MW*	*Greater than 1 MW*	*Less than 1 MW*	*Greater than 1 MW*
AmerenCIPS[5]	7,696	53	718	8	9.3	15.1
AmerenUE	1,245	23	18	0	1.4	0.0
CILCO	3,898	45	0	0	0.0	0.0
ComEd	42,157	995	8,770	763	20.8	76.7
Illinois Power	7,012	144	615	25	8.8	17.4
MidAmerican	1,875	26	183	3	9.8	11.5
Total	63,883	1,286	10,304	799	16.1	62.1

Figure 4: Amount of Usage Switched to Delivery Services During 2000

	Amount of Usage Eligible for Delivery Services (Thousand mWh)		*Amount of Usage Switched to Delivery Services (Thousand mWh)*		*Percentage of Usage Switched to Delivery Services (%)*	
Utility / Demand Level	*Less than 1 MW*	*Greater than 1 MW*	*Less than 1 MW*	*Greater than 1 MW*	*Less than 1 MW*	*Greater than 1 MW*
AmerenCIPS	672	680	121	162	18.0	23.8
AmerenUE	1,139	1,412	3.5	0	0.3	0.0
CILCO	430	711	0	0	0.0	0.0
ComEd	11,412	15,941	5,253	11,680	46.0	73.3
Illinois Power	995	7,908	135	3,289	13.6	41.6
MidAmerican	224	499	35	17	15.6	3.4
Total	14,872	27,151	5,548	15,148	37.3	55.8

C. Discouraging Signs of Market Development

1. Downstate Switching Statistics

There are several signs that bode unfavorably for the development of a competitive retail market throughout the entire State. First, no switching has occurred in four of the State's nine service areas, and the amount of switching that has occurred

[5] The number of AmerenCIPS customers and usage eligible for and receiving delivery services may be undercounted by approximately 25%

in the AmerenUE and MidAmerican service areas is very small. Moreover, there seems to be little prospect of near-term retail market activity in the state's smallest service areas, as few suppliers have registered with the utilities in these areas to sell power and energy to retail customers.

Second, a close look at the switching activity in the AmerenCIPS, ComEd and Illinois Power service areas shows that a substantial percentage of customers who have switched to delivery services have switched to PPO service, rather than to service from alternative suppliers. For example, as shown in Figure 5, the switch to PPO service comprises the bulk of switching in the AmerenCIPS area, where approximately 80% of delivery service customers in that area have switched to the PPO. Illinois Power delivery services customers, particularly industrial customers, have also used PPO service with great frequency. In the ComEd area, where switching rates are high, a large percentage of delivery services customers are using PPO service rather than RES[6] supply service. Across the state, about 40% of delivery services customers are using PPO service. Likewise, approximately 40% of delivery service usage has been placed on the PPO (see Figure 6).

Third, while approximately 60% of customers are receiving RES-supplied power, almost all of the customers purchasing power from RESs operating in the AmerenCIPS and the Illinois Power areas are members of a single aggregated group, which was formed for the express purpose of purchasing electricity. In addition to the members of this group, few other customers are purchasing power from RESs in these areas. Thus, the extent of retail activity is more limited in the downstate areas than it might appear.

Figure 5: Selection of Power Purchase Option During 2000

	Number of Customers Switched to Delivery Services		*Number of Customers Selecting Power Purchase Option*		*Percentage of Delivery Services Customers Selecting Power Purchase Option*	
Utility / Demand Level	*Less than 1 MW*	*Greater than 1 MW*	*Less than 1 MW*	*Greater than 1 MW*	*Less than 1 MW*	*Greater than 1 MW*
AmerenCIPS	718	8	548	7	76.3	87.5
ComEd	8,770	763	2,924	324	33.3	42.5
Illinois Power	393	25	61	23	15.5	92.0
Total	9,881	796	3,533	354	35.8	44.5

[6] ARES and utilities serving retail customers outside their service areas are called "Retail Electric Suppliers," or "RESs."

Figure 6: Amount of Usage Switched to the Power Purchase Option During 2000

	Amount of Usage Switched to Delivery Services (Thousand mWh)		*Amount of Usage Switched to Power Purchase Option (Thousand mWh)*		*Percentage of Switched Usage on Power Purchase Option (%)*	
Utility / Demand Level	*Less than 1 MW*	*Greater than 1 MW*	*Less than 1 MW*	*Greater than 1 MW*	*Less than 1 MW*	*Greater than 1 MW*
AmerenCIPS	186	297	61	135	32.8	45.5
ComEd	5,253	11,680	1,782	4,890	33.9	41.9
Illinois Power	135	3,289	54	1,221	40.0	37.1
Total	5,574	15,266	1,897	6,246	34.0	40.9

2. Use of the Power Purchase Option

Customers' reliance on PPO service does not bode well for the prospects for the growth of a competitive market in the short term. While PPO customers receive rate discounts, PPO service is only a temporary service that will be offered only as long as utilities are charging transition charges. Transition charges are to be phased-out by the end of 2006, and in fact, could end sooner than 2006 in some service areas if the host utility decides on its own initiative to cease charging transition charges. Any utility that stops charging transition charges may also consider dropping its offering of PPO service. If this were to occur, those customers who rely on the rate decreases associated with PPO service may discover that they have to return to the higher-priced bundled service, unless they can find a RES who can offer a competitive price.

Not only have customers used PPO service to a great extent, suppliers, at this early stage of the transition to competitive markets, have also relied on PPO service. In fact, the Commission believes that the majority of customers presently taking PPO service have not signed up for the PPO on their own initiative but rather have signed up for that service with the assistance of "agents," entities appointed by customers to make decisions with respect to their customers' electric service. Agents are generally (but not always) suppliers who have received a certificate from the Commission to offer electric supply to eligible customers. In practice, a customer's agent signs up a customer for PPO service, pays the customer's PPO bills directly to the utility, bills the customer a higher amount, and pockets the difference. Customers taking PPO service in this fashion often have the impression that the RES is actually "supplying" them with power and energy.

The Act also created a different means by which suppliers may use PPO service. Pursuant to Sec. 16-110 of the Act, customers may "may sell or assign" to suppliers their rights to the power and energy they consume under PPO service. While customers do not usually understand the "PPO - Assignment" transaction, in effect the suppliers to

whom customers have sold or assigned their PPO rights are purchasing power and energy from the host utility and selling that power and energy to their customers.

There is yet another way that suppliers (in the ComEd area only) have used a service that is essentially a variant of PPO - Assignment. During 2000, ComEd sold wholesale power and energy to some of the largest suppliers under its "wholesale option" that the suppliers resold to customers. Considering customer switches to PPO service that were initiated by customer agents, PPO Assignment sales, and power and energy sales to suppliers under the wholesale option, a majority of the power and energy sold to delivery services customers in the ComEd area was produced by ComEd.

Suppliers' reliance on PPO service also does not bode well for a future competitive retail market because suppliers who use PPO service are not purchasing power and energy on the wholesale market for later resale to customers. Rather, "PPO" suppliers are essentially reselling the power and energy produced by the host utilities. While the existence of PPO has enabled suppliers to gain a foothold in the Illinois market, eventually suppliers will need to turn to the wholesale market for power and energy. Unfortunately, however, the wholesale market does not appear to be capable of producing a sufficient quantity of competitively priced power and energy that suppliers can profitably resell to eligible customers. In this connection, it is worth noting that in the areas in which the PPO is not offered, only a handful of customers have switched to delivery services. If the wholesale market does not improve by the time the PPO is no longer available, then prospects for a competitive retail market will be dim.

D. Retail Electric Supplier Activity

Presently, about 16 suppliers are qualified to sell power and energy to retail customers. The 16 suppliers are comprised of the companies who received certificates from the ICC to sell power and energy to retail customers, as well as the electric utilities that sold electricity outsider their service areas during 2000. Each of the most successful suppliers are Illinois utilities or affiliates of Illinois gas and electric utilities.

Most of the suppliers are concentrating their marketing efforts in the ComEd service area only. Eight suppliers sold power and energy (or took part in a PPO Assignment transaction) in the ComEd service area during 2000. Only five suppliers, have sold power and energy to downstate customers.[7] The number of active suppliers in each service area is shown in Figure 7. For a retail market to development to develop throughout the state, it is imperative that more suppliers enter the downstate markets.

[7] One or two other registered suppliers may be operating as customer agents.

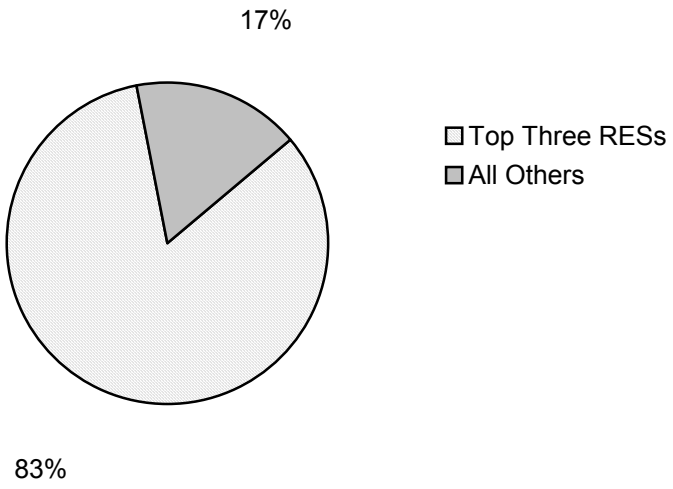
Figure 7: Number of Active Retail Electric Suppliers During 2000, by Service Territory

Utility	Number of Active RESs
AmerenCIPS	2
AmerenUE	1
ComEd	8
Illinois Power	4
MidAmerican	1
All Others	0

While eight suppliers were active in the ComEd area during 2000, three suppliers have accumulated the majority of the market, as shown in Figure 8. A calculation of the "Herfindahl-Hirschman Index" ("HHI"), a standard measure of market concentration, shows that the delivery services market in the ComEd area is presently "highly concentrated."[8] It might be difficult to transform a highly concentrated market into a competitive market.

[8] Based on the market shares of Retail Electric Suppliers, as measured by kilowatt-hour sales to delivery services customers, the HHI is about 2700. For a discussion of the HHI, see "Horizontal Merger Guidelines, " U.S. Department of Justice and the Federal Trade Commission, at http://www.usdoj.gov/atr/public/guidelines/horiz_book/toc.html.

Figure 8: Retail Electric Supplier Market Share in Commonwealth Edison's Service Territory



IV. Competitiveness of the Wholesale Market

A. Introduction

The Electric Service Customer Choice and Rate Relief Law of 1997 provides that

> A competitive wholesale and retail market must benefit all Illinois citizens. The Illinois Commerce Commission should act to promote the development of an effectively competitive electricity market that operates efficiently and is equitable to all consumers. … All consumers must benefit in an equitable and timely fashion from the lower costs for electricity that result from retail and wholesale competition and receive sufficient information to make informed choices among suppliers and services. (220 ILCS 5/16-101A, quoted in part)

Hence, the Commission is required under the law to look beyond activity in the retail market to examine the structure and performance of the State's wholesale market for electricity, as well.

The importance of the development of an effectively competitive wholesale market cannot be overstated. Without a competitive wholesale market for electricity, retail competition—no matter how robust—will still result in inefficiently high prices. Robust competition, at the retail level, only guarantees that the profit margin at the retail level is small. Prices will still be high, relative to efficient levels, when the wholesale market has few competitors.

In carrying out this task, the Commission has identified a number of issues and concerns regarding the development and structure of the wholesale market for electricity in Illinois. At present there are several reasons to believe that prices for electricity in the wholesale market will increase considerably as early as 2005. First of all, the Electric Service Customer Choice and Retail Relief Law of 1997 mandated a 15% across-the-board rate reduction for the residential customers of the state's two largest utilities, followed by a further 5% rate reduction in 2002. Utilities cannot request permission to change their existing rate structures until January 1, 2005, unless they can meet a "financial need" test. Even if rates returned to pre-market structuring levels, most residential customers will experience a 20% rate increase by 2002 over current levels. In addition, for most utilities, the electric rates frozen in 1997 had already been in effect for several years. Utilities eventually will be seeking to reflect normal cost inflation and additions to utility plant in the period since those old rates first became effective.

Second, environmental regulation is starting to have a more noticeable impact on the costs of generating electricity nationwide. Many of the laws and regulations initially put in place as long ago as 1990 to reduce sulfur dioxide and nitrogen oxide emissions will be taking full effect in the next five to ten years. Older restrictions regarding ambient pollution levels, set in the 1970's, are still in effect and must be met as well, even as electricity demand requires increases in production from the sources of supply. Keeping old and new plants in compliance will become an increasingly more expensive problem as time goes on. The upward price pressure from environmental control regulation is occurring at a time when the Illinois and the national markets for electricity are in the process of deregulation.

The third reason there may be significant price increases in 2005 is due to the market structure of the developing wholesale market itself. There is evidence that there might not be enough competition in the Illinois wholesale electric market to ensure efficient and reasonable prices in the retail markets for electric power.

This section of the Commission's report will focus on the two most important reasons, in the Commission's view, that the prices for electricity will likely rise in both the wholesale and retail markets in Illinois in 2005 and beyond under the current circumstances: environmental regulation and market power in the wholesale market. In investigating these two areas of concern, the Commission is attempting to discern the magnitude of the potential problems and is developing a menu of actions that the State can take to avoid or mitigate these problems. Details of this effort are described below.

B. The impact of Environmental Regulation

While the Commission does not have jurisdiction over environmental regulation, the Commission has identified a number of concerns regarding the effect of environmental regulation on both the development of a competitive wholesale market for electricity and on the costs of producing electricity. The Commission recognizes the benefits such regulations have for society, but it is important to note that these regulations will also have an economic impact on the electric generation industry. One effect of this regulation will be higher costs of electricity nationwide. In addition, environmental regulation may, at least in the intermediate term, prevent enough generation from being built to support a reasonably competitive market. Environmental regulation may also contribute to increased price instability in electric and natural gas markets.

There are reasons to expect higher prices for electricity due to environmental regulations. First, environmental regulation is requiring increasingly expensive control technologies on both existing and future power plants. Second, emission allowances and air quality standards are playing a role in the composition and the number of competitors that can operate in a market at any one time, thereby limiting competition to some extent. Where emission allowances are used, the finite number of allowances

places an upward boundary on the amount of power that can be generated in a year by any one generator, and by the industry as a whole. Best available technology standards can discourage smaller units being built, as the proportion of the fixed costs of controls to revenue is often significantly larger than for more sizable units. The effect of this regulation on the costs of generation and on any limitations on the entry of new sources of supply needs to be examined.

Other aspects of the environmental regulation will have a more indirect impact on the development of a competitive wholesale market and on the price of energy in Illinois. One indirect effect of national and state environmental regulation has been a dramatic increase in the amount of new and proposed natural gas-fired electric generating facilities. Nationwide, 22,000 MW of natural gas-fired generation capacity was added last year. Industrial firms' use of natural gas for fueling electric generation in year 2000 is estimated to have risen 19% from 1999 levels. In all sectors, over 100,000 MW of new gas-fired generation is scheduled for construction before the end of 2002.[9] Given current trends, "a total of 393 gigawatts of capacity (excluding cogenerators) are projected to be needed by 2020 to meet growing demand and to offset retirements…. of this new capacity, 92 percent is projected to be combined-cycle or combustion turbine technology, including distributed generation capacity, fueled by natural gas. Both technologies are designed primarily to supply peak and intermediate capacity, but combined-cycle technology can also be used to meet baseload requirements."[10] This indicates that there will be a substantial increase in the demand for natural gas supplies in the near future. Every 10,000 MW of additional gas-fired generation translates into roughly 1 Bcf/day of additional demand for natural gas, and with the increase in gas-fired base load generation; the number of Bcf/days will dramatically increase with time. If all of the proposed capacity is built, national demand for natural gas will increase by roughly 10 Bcf/d due to the demands from these new gas-fired plants alone. Natural gas consumption for electricity generation (excluding cogeneration) is projected to increase from 3.8 trillion cubic feet in 1999 to 11.3 trillion cubic feet in 2020.[11]

Domestic gas production, on the other hand, has not been keeping pace in recent years. As demand increases relative to supply, prices will rise, as they did this last year, and so should investment in gas production. There has already been a marked increase in drilling rig counts, indicating a supply response to the higher prices. Nevertheless, if gas prices remain high while gas continues to be the fuel of choice for electric generation, electricity prices will increase as well. Eventually, unless gas transmission facilities are upgraded and/or expanded, there will be a limit on the amount of gas-

[9] Energy Information Administration (EIA), Electric Power Annual 1999, Vol. 1, DOE/EIA-0348(99)/1 (Washington, DC, August 2000).
[10] Energy Information Administration (EIA), Electric Power Annual 1999, Vol. 1, DOE/EIA-0348(99)/1 (Washington, DC, August 2000). Page 73.
[11] Energy Information Administration (EIA), Electric Power Annual 1999, Vol. 1, DOE/EIA-0348(99)/1 (Washington, DC, August 2000). Page 84.

fired generation capacity that can be supported within Illinois. Such constraints on the amount of competitive generation that can locate in any one area would further contribute to the market power and load pocket problems outlined below.

C. Market Power

Dispersion of ownership of generation within Illinois electric utility areas is quite limited. High market concentration of ownership facilitates the exercise of market power. Market power means the ability to charge inefficient (high) prices relative to the opportunity costs of production and earn higher than normal profits. Absent barriers to entry, the market will correct this problem. Attracted by the profit opportunities, competitors will enter the market, reduce market concentration, engage in price competition, and drive prices and profits down until efficiency is reached. However, if barriers to entry exist, the ability of the market to correct itself is limited. In such circumstances, market concentration can remain high or increase, price competition remains limited or absent, and prices and profits remain inefficiently high.

This basic theory provides a framework within which to examine the developing wholesale market for electricity in Illinois. A preliminary examination of the Illinois wholesale electric market by the Commission indicates that transmission constraints may exist within and between utilities in Illinois. These constraints may restrict the mobility of electricity from generators to load, potentially creating many sub-divided wholesale markets—called load pockets—within each utility territory. This is particularly true during periods of peak load demand. Within these load pockets are a limited number of generators owned by a limited number of competing firms. This situation has the prospect of providing the owners of this relatively isolated generation some ability to manipulate the wholesale market price during peak periods. This is a concern to the Commission, particularly given the fact that many of the significant barriers to entry into these constrained areas are, to some extent, under the indirect control of already-dominant suppliers.

1. Transmission Constraints, Load Pockets, and Localized Monopoly Power

The Commission has identified physical limitations of the transmission network within and between utility territories, and the resulting localized market concentrations, as one of the causes of unprecedented price spikes in other regions of the country, particularly California, New York, and the eastern interconnect of PJM. Having identified this problem, the Commission has begun a rigorous study of the Illinois transmission and distribution infrastructure to examine whether or not it will be sufficient to support the pressures of competition.

Limited transmission capacity between utilities within Illinois and other states is a potentially serious problem with respect to developing a competitive wholesale market in the state. Systems that were sufficient to maintain reliability under monopoly

regulation may not necessarily be capable of supporting competition in the emerging markets for electricity. Under the traditional regulatory scheme, utilities were required to ensure that their load was served reliably. In response, utilities built generators to supply their native loads. The utilities planned and built transmission facilities to support this relative autonomy and enhanced reliability.

Transmission systems were designed to supplement rather than competitively supplant the utilities own local generation facilities. Indeed, generators were placed as close as practical to the utility's loads, limiting the strain on the network, the costs of transmission energy loss, and perhaps political opposition to transmission lines. Only if the utility needed outside sources of power, for reliability or other reasons, would import or export capability be a serious consideration.

As the wholesale market for electricity has undergone restructuring at the hands of federal regulators, intra- and inter-state wholesale trades have increased. Consequently, the limitations of transmission systems built around the concept of local reliability are becoming more apparent. These systems have shown evidence of being pushed to the extremes of their capability during the last two summers, during electricity demand peaks. As the national market for wholesale power has grown, so has the number of emergency orders to abort individual power transfers due to potential overloads of the system. These emergency orders, called Transmission Load Relief actions ("TLRs"), attained record levels last year. Swelling numbers of TLRs are evidence of a transmission system that may not be prepared to support competition.

Any limitations on wholesale transactions, imposed by physical constraints of the existing transmission grid, will have a direct impact on the amount of competition that can occur at the wholesale level within each utility territory. The existence of inter-utility transmission constraints requires a greater reliance on "local" competition between suppliers within each market. However, in some areas, similar restrictions on the movement of electricity within each utility's distribution grid will limit the number of generators that will be in a position to compete in supplying wholesale power. Areas where loads are isolated from most of the generation resources on a given utility's system are known as "load pockets." Load pockets typically manifest themselves during peak load periods, when segments of the transmission and distribution systems reach their physical limits. Such restrictions prevent more distant generators from reaching the market and require local generators to serve load. If ownership of these local generators is limited to a single firm, the existence of the load pocket will enable that firm to exercise a degree of market power. Even if the firm lacks such market power during off-peak periods, when transmission and distribution constraints are not

binding, the market power derived from the load pocket effect during high demand periods can have a disproportionate effect on prices.[12]

There is reason to be concerned about market concentration of generation assets in Illinois, both within traditional utility territories and within load pockets within these territories. Following the enactment of the Illinois electric restructuring law in 1997, utilities have sold or transferred most, if not all, of their generation assets to their own affiliates. At present and for the foreseeable future, these generating assets comprise most of the State's generation capability. There is the very distinct possibility that Illinois does not have a large enough number of independent wholesale competitors in all areas of the state to permit price competition during periods of peak-load demand. This is a situation that is at odds with the traditionally held ideal of a single wholesale market served by a great number of independent competitors. Probabilities are high that Illinois will have a number of partially isolated markets, each with a resident, unregulated, potentially monopolistic firm—the utility's affiliate—poised to dominate it.

Physical limitations on transmission and distribution systems are a significant concern in Illinois. Any such limitations will contribute to the market power of the owners of generators in each of the utility areas in Illinois. This has been a problem with markets in other states and regions, and it may be a problem here as well. In order to better understand this issue, the Commission is investigating the capacity of the transmission and distribution systems of the Illinois electric utilities. As part of this study, the Commission will be developing a comprehensive computer simulation model of the regional transmission grid. The goal of this modeling is to provide information regarding potential problem spots in the grid, including potential load pockets, as well as inter-utility constraints that may limit wholesale competition during critical peak load periods. Such information should provide an indication concerning where new generation or upgraded transmission capacity would be needed to relieve market concentration levels. The regional scope of the model would help identify out-of-state transmission constraints that may need to be addressed within the multi-state transmission organization(s) that are forming in the Midwest in response to federal regulatory initiatives. Hence, the Commission may be able to rely upon the staff's capability within the context of state-jurisdictional proceedings or those federal-jurisdictional proceedings in which the Commission finds it appropriate to intervene.[13]

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[12] While in this example a single firm is the owner of the "must-run" unit(s) within the load pocket, market power may be exercised by two or some other relatively small number of firms as well. The lack of binding transmission and distribution constraints during low-demand periods subjects such firms to competition from beyond the local area. When such constraints are binding during high-demand periods, these firms become local monopolists, duopolists, or oligopolists.

[13] The Illinois Commerce Commission has long taken pro-competitive positions before federal rulemakings and other proceedings.

2. No economic incentive to reduce market power

Another potential concern identified by the Commission is that the wires-only companies, created when the Illinois utilities spun off their generation to their unregulated affiliates, have an incentive, given their relationship with their unregulated generation affiliates, to maintain the current barriers to entry into its markets. This means incentives exist that could cause the wires-only utilities to favor their affiliates with regard to the interconnection queue for new generation on their transmission systems, or in how requests are handled in the transmission rights request queue. In addition, this relationship may limit the amount of new transmission that a utility is willing to build. Any added transmission capacity, while allowing an affiliate access to more markets, would also allow a greater amount of competitive generation access to the affiliate's home market. What revenues the wires company could make by increasing transmission capacity, allowing new generators on its system, or equitably treating requests for transmission service at regulated rates may pale in comparison to the money that can be made for holding-company stockholders from keeping the unregulated generation affiliate sheltered.

If the utility can shield the affiliate from competition by maintaining, or not eliminating, physical constraints on the transmission system, by limiting the development of new generation, and by limiting non-affiliate access to transmission capacity, the affiliate will have a greater ability to influence prices during peak hours. Even if contracts are signed between the affiliate and the utility, the market position of the affiliate in the captive wholesale market may insure that a negotiated price is high, with only the local, inflated wholesale price as a measure by which to judge the transaction. These high prices are costless to the wires company, which could, under Federal law, be allowed to pass the prices on to retail customers. The holding company, through its unregulated generation affiliate, may stand to make a considerable profit by selling power at unregulated prices in a highly concentrated wholesale market.

The Commission is concerned with the possibility that these very strong economic incentives will tempt utilities to act in a manner that is not consistent with the public interest and the development of competition in Illinois. Due to this concern, the Commission has been collecting data on each utility's interconnection and transmission queues to watch for any signs of favoritism towards the affiliates or any other violations of the FERC open access tariffs that have been filed under FERC order 888. The Commission, through the use of the regional transmission model, also hopes to be in a position to suggest transmission grid improvements and likely places for generation to be developed that will increase the entry of competitive wholesale power into the Illinois markets.

V. Conclusion

The benefits to consumers derived from the freedom to choose within effectively competitive markets are well-known to policy makers. Information presented in this report indicates that, in some areas of the state, a fairly significant number of customer are taking advantage of the opportunity to reduce electric costs. In particular, large customers, defined for purposes of this report as customers with a demand exceeding one megawatt, are switching to lower-cost services offered by the incumbent utilities or to service provided by Retail Electric Suppliers.

However, there are a number of problems facing the development of healthy competition for wholesale and retail electric power in Illinois and elsewhere in the United States. With respect to the retail market, the relatively few number of suppliers that are active in the State are relying to a great extent on power produced by the host utilities, rather than on power purchased on the wholesale market. Problems in the wholesale market include affiliate ownership of generation, limited transmission capability, high market concentrations in generation ownership, and the existence of only one currently-feasible fuel for new generation (namely, natural gas). Since most electric utilities will purchase much of the power they need for their bundled customers in 2005, and beyond, problems in the wholesale market may lead to retail price increases as soon as 2005, when the existing rate freeze expires.

The Commission is investigating these wholesale market issues with the goal of providing policy options and suggestions. Any policies intended to reduce market power and increase the potential for competition in the Illinois wholesale electricity markets must focus on one thing—reducing load pockets. As discussed above, there are two ways to reduce load pockets and the market power that can be associated with them. First, transmission and distribution capacity of the grid can be improved to reduce load pocket effects. The greater the capacity of the grid to move power, the greater the number and capacity of generators that can compete in a given market, and the greater the number of the generators that can be supported by the grid. Second, steps can be taken to develop local competition in terms of generation to "fill" the load pockets. An increased number of local generators will increase price competition during peak-load hours when the physical limitations on the grid cut the load-pocket from outside competitors.

Barriers to the development of a competitive market for electricity in Illinois are numerous. One source of resistance may be the utilities themselves. Other sources will be NIMBY sentiments against both new generation and transmission facilities. Still other barriers will be created by environmental regulation, as discussed earlier in this report. While there will be obstacles, the price that will be paid for ignoring these issues may be unreasonably high prices for electricity in 2005 and beyond, and the economic impacts of high energy costs on the Illinois economy. The solution to these issues will

require that policy makers insure that market entry is possible, from both local and regional generation resources. This means policies, regulation, and tariffs that encourage new and independent generation, encourage upgrades to transmission and distribution systems, and that provide equal access to what transmission is available. It may also require the Commission to take a more active stance in identifying areas where transmission needs to be built in order to relieve constraints and reduce market power. The Commission is working on this capability through the use of a regional transmission model, which will provide the Commission with the information necessary to assess the need for specific transmission grid improvements.